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Osnovy Planirovaniya Perevozok na Zheleznodorozhnom Transporte
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HAULING FREIGHT OF THE SOVIET METALLURGICAL INDUSTRY

Yu. I. Koldomasov

At present, metallurgical industry freight amounts to about 10 percent of the average daily loading of the railroads, disregarding that freight which is supplied to the metallurgical industry according to the hauling plan of other ministries (coal, petroleum products, cement, and others). In regions where the metallurgical industry is concentrated, the South and the Donbass, the total weight of metallurgical industry freight amounts to 60-75 percent of the total freight turnover on the railroads of these regions.

In the South, the 1946 - 1950 Five-Year Plan called for the restoration of 17 heavy metallurgical plants, seven pipe-rolling mills and pipe foundries, and the restoration of the prewar level of production of cast iron, steel, rolled products, ores, and coke by the metallurgical industry. This will entail a heavier flow of metallurgical freight on the railroads of the Donets Okrug.

Metallurgy requires a vast quantity of raw materials and fuels, which, to a great extent, are hauled on the railroads. To produce one ton of metal, it is necessary to carry 6 tons of coal, ores, fluxes, and other materials. The normal operation of a 1,300-cubic-meter blast furnace requires a daily turnover of 7,000 tons of freight. This includes the hauling of ores, fluxes, coke, smelted products, and waste products of the blast furnace. The following important freight of the metallurgical industry is set forth in the plans for hauling on the railroads: iron and manganese ores, fluxes, refractory materials, ferrous and nonferrous metal scrap, coke, sulfur raw materials, moulding sands, and chemicals. Of the total freight turnover of the railroads in 1947, the hauling of ores amounted to 5.2 percent, according to tons, and 4.7 percent, according to ton-kilometers.

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The average length of haul of metallurgical industry freight on the railroads is shown in the following table:

<u>Item</u>	<u>1947</u>
Ore of all types	647
including	
Iron	605
Manganese	966
Others	655
Ferrous-metal scrap	840
Fluxes	172

The main freight flow of iron ore on the railroads originates in the South, in the Krivoy Rog basin. Ore from the Krivoy Rog basin supplies the metallurgical plants of the South and Center and is shipped west for export. Ural iron ores (Magnitogorsk, Bakal, Gornoblagodatshaya, and others) provide raw-material bases for Ural metallurgy. Magnitogorsk ore is sent to the Kuznetsk Metallurgical Combine because ore deposits in Western Siberia, particularly the Tashtagol deposits, are not sufficiently developed.

The 1946-1950 Five-Year Plan called for a decrease in the length of haul of metallurgical raw materials and curtailment of the hauling of Ural iron ore to the Kuzbass by increasing iron-ore extraction in Gornaya Shchriya. In addition, the organization of iron-ore extraction in the area of the Kursk Magnetic Anomaly will make it possible to decrease the length of haul of Krivoy Rog ores to the metallurgical plants of the Center.

The planning of ore hauling is centered in the Ministry of Metallurgical Industry. Requirements for ore, whether hauled by the railroads or not, are determined according to a balance of ores which is set up on the basis of the plan for extracting ores and the consumption of ore by the various metallurgical plants, depending on the established plan of production. Car norms for loading ore are distributed by the Ministry of Metallurgical Industry to the "Krivbasruda," "Chiaturmarganetsruda," and "Nikopol'marganetsruda" trusts, as well as to the ore administrations. The plan of hauling according to mine of origin and plant of destination is compiled in the Ministry of Metallurgical Industry and sent to the railroad administrations and the mines.

The organization of hauling Krivoy Rog ores has several peculiarities which should be noted. In view of the great number of classes of Krivoy Rog ore and of the difficulty of sorting them at the places of extraction, the sorting is done at the special ore-sorting station of Verkhovtsevo on the Stalin Railroad System. All ore loaded at the loading stations is addressed from the Krivoy Rog Basin to Verkhovtsevo. A sample of the shipped ore is taken from each car, and its classification is determined. The result of the analysis is sent by telephone to Verkhovtsevo prior to the arrival of the train with the particular ore. On arrival of the train at Verkhovtsevo, the classification of the ore is marked on the cars. The Verkhovtsevo station has a separate track for cars loaded with each class of ore.

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Ore cars are separated on different tracks depending on the class of ore they carry. Here, they are made up into trains and shipped to the respective metallurgical plants. In this case, the station of Verkhovtsevo is a component part of the technological process of the metallurgical industry.

Ferrous metal scrap is the second main type of raw material for the metallurgical industry. In 1950, steel smelting was to exceed the smelting of cast iron by 30 percent. In the prewar years, the domestic metallurgical industry did not produce such a high proportion of steel. For this reason, the utilization of ferrous metal scrap reserves is very important for the operation of the metallurgical industry.

The basic routes for hauling metal scrap on the railroads pass from the Northwest and Center of the country to the South and the East.

Glavvtorchmet (Main Administration of Procurement, Processing, and Sale of Ferrous Metal Scrap) of the Ministry of Metallurgical Industry is responsible for planning the hauling of ferrous metal scrap on the railroads. In conformance with the plan for procuring ferrous metal scrap, the oblast offices of Glavvtorchmet ascertain the car requirements of plants providing the scrap metal. These requirements are then broken down according to types of scrap and presented to Glavvtorchmet. The requirements indicate the railroad systems of origin and destination, the number of cars concerned, and the types of scrap.

Ferrous metal scrap is classified as follows

1. Scrap iron and steel, Class I, II, and III
2. Open-hearth steel shavings
3. Nonburned cast iron
4. Alloy waste
5. Roofing
6. Electric-furnace scrap
7. Cupola-furnace iron and steel scrap
8. Chemical cast-iron shavings
9. Scrap
10. Miscellaneous scrap

Glavvtorchmet distributes the car norms for the hauling of ferrous metal scrap to the oblast offices which submit the detailed plan of hauling according to railroad stations of origin to the railroad administrations. The plan for hauling ferrous metal scrap according to railroad system of origin and destination is presented to the Ministry of Transportation by Glavvtorchmet.

Glavogneuporsbyt (Main Administration for Refractories Sales) of the Ministry of Metallurgical Industry is mainly responsible for planning the hauling of the principal refractories. Fire clay, by weight, amounts to 45 percent of the total refractories hauled; firebrick, 22 percent; quartzite, 13 percent; Dinas brick, 8 percent; and magnesite, 6 percent.

The main freight flow of refractories originates in the South, the Urals, and in the Center. The Chasov Yar deposit of fire clay is one of the richest deposits of fire clay in Europe. The clay is very pliable and has a good chemical composition. This deposit has been exploited for a century.

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At present, fire clay is hauled inefficiently by the railroads because of the poor distribution of fire-clay pits. Fire clay from the Ural deposits is hauled from the Urals, with a length of haul of up to 1,300 kilometers, particularly to the Center, whence refractory products are shipped to the Urals. In addition, clay is hauled from the Pavlodar area to the Kuznetak Metallurgical Combine, a distance of 1,400 kilometers, while the nearby Berezniki deposits are not utilized.

The average length of haul of refractory clay on the railroad network is about 450 kilometers, while that of firebrick is 800 - 900 kilometers.

In addition to the poor distribution of the refractory industry and fire-clay pits, there is also the fact that in the regions of the North, West and Center, insufficient quantities of fire clay are extracted. To overcome the shortage of firebrick, clay is imported from other regions of the USSR. In 1947, plants in the Center received 124,000 tons of clay from the Urals and 32,000 tons from the South, while the length of haul was 900 - 1,000 kilometers.

Consumer ministries, in accordance with the allocated stocks, present orders to Glavvneuporsbyt of the Ministry of Metallurgical Industry, which, in turn, assigns the plant producers to the consumers, compiles a detailed plan of hauling according to stations and railroad systems of origin and destination, and presents it to the railroad system administration. To the Ministry of Transportation it presents a collated plan of hauling according to railroad system of origin and destination.

Fluxes in their basic form belong to short-haul freight. The average length of haul for them amounts to about 182 kilometers.

Because of the continued poor distribution of the extraction of fluxes in the South, as well as in the Urals, and the insufficient utilization of local raw materials in proximity to the metallurgical plants, fluxes must be hauled long distances by railroad.

In view of the extensive use of fluxes in the metallurgical industry, machine building, and a number of other branches of industry, the planning for flux hauling is carried out by 12 ministry freight shippers. The over-all hauling plan is worked out by the Ministry of Transportation for the railroads.

The Ministry of Metallurgical Industry is mainly responsible for planning the hauling of fluxes, which is done on the basis of the standard pattern of freight flow approved by the Ministry of Transportation and the Ministry of Metallurgical Industry. The flux mines are under the control of the various main administrations. Thus, for example, mines located in the Center and the South are subordinate to Glavnerud (Main Administration of Nonmetallic-Ore Mines); Turgoyak and Vysokaya Gora Mine Administrations are subordinate to Glavvruda (Main Administration of Iron-Ore Mines); and Bilimbay, Chusovoy, and Nizhnaya Salda Mine Administrations are subordinate to Glavvtorchmet.

The plan of hauling fluxes according to station and railroad system of origin and destination is compiled in the corresponding main administrations in conformance with the car norms allocated for the hauling of fluxes. The main administrations send the hauling plan according to stations and railroad system of origin and destination directly to the railroad-system administrations, while the Transport Administration of the Ministry of Metallurgical Industry presents the combined hauling plan according to railroad system of origin and destination to the Ministry of Transportation.

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At present, the planning of flux hauling is done on the basis of standard freight-flow patterns approved by orders of the Ministry of Transportation and the Ministry of Metallurgical Industry, dated 12 August 1948 [see "freight flow" table below].

In the future, rationalization of the hauling of freight of the metallurgical industry will be accomplished by means of the following:

1. Maximum utilization of local resources of ore, fluxes, and fire clay by
 - a. Increasing the extraction of ore by the Bogoslovskoye Mine Administration for the Serov Sinter Plant, which will make it possible to decrease the hauling of ore by the railroads from the Goroblagodatskaya and Vysokaya Gora Mine Administrations.
 - b. Decreasing imports of Ural iron ore to the Kuzbass by utilizing local resources.
 - c. Increasing the extraction of fluxes at the metallurgical plants' own mines.
 - d. Increasing the extraction of fluxes at the mines of the Chusovoy Plant (granulite), thus making possible the organization of the supply of fluxes to the Lys'va, Chernokholimskiy, Omutninsk, Dobryanka, and Chermoz plants and to discontinue the hauling of limestone to these plants from the Bilimbay and Vysokaya Gora mines.
 - e. Increasing the extraction of fire clay in the regions of the North and West to guarantee a supply of raw material for the making of fire-brick to the Borovichi Combine. This will decrease the long railroad haul of fire clay from the Center, South, and Urals.
 - f. Increasing the extraction of fire clay at the Suvorovskiy Mine, located at the station of Sbrodovo on the Moscow-Kursk Railroad System, and the working of new clay deposits in the Center to decrease the long railroad haul of clay to the Center from the South and Urals.
 - g. Organizing the extraction of fire clay in Siberia, which would supply the Kuznetsk Metallurgical Combine with fire clay from nearby regions and relieve the railroads of the long hauls of fire clay from other areas.
2. Development of the extraction of coking coal with a minimum sulfur content in the Donbass, thus making it possible to decrease the excessively long hauls of Kemerovo coke to the Center and the Far East.
3. Maximum mobilization of scrap-metal resources in the sharply deficient regions of the Urals and Siberia with the aim of decreasing long hauls of scrap from the Northwest to Siberia for the Kuznetsk Combine.
4. Concentration of scrap-metal processing in scrap-metal producing regions to decrease the length of haul of unprocessed scrap, the hauling of which incompletely utilizes the carrying capacity of rolling stock.
5. Increasing the use of water transport in the hauling of crude sulfur from the Sverdlovsk Railroad System for the chemical factories of the Center.

Freight Flow Routes of Fluxes

<u>Originating Railroad System</u>	<u>Loading Station</u>	<u>Source</u>	<u>Freight</u>	<u>Flow Routes and Destinations</u>
Kirov	Gelikovka	Kamenniy Bor Quarry	Quartz	Kirov System; October System; to Kanatchikovo on Moscow Inner Belt Line
October	Selishche, Uglovka	Uglovka Lime Combine	Limestone, lime	October System, with exception of Moscow-Povarovo Section; Leningrad System; Latvian System
Latvian	Plyavinyas	Plyavinyas Quarry of Ministry of Construction Materials Industry USSR	Uncalcined dolomite	Latvian System
Latvian	Brotseny	Brotseny Quarry of Ministry of Construction Materials Industry USSR	Limestone	Latvian System
Northern	Bakeritsa	Amderma Mine Administration	Fluorspar	Northern System; Pechora System; Perm' System; Sverdlovsk System; and South Ural System to Sysert' Station NOTE: Loaded at Kotlas during navigation period.
Northern	Kodino	Lime quarry of "Severonikel" Combine	Limestone	Northern System to Obozerskaya-Sorokskaya Section; Kirov System to Sorokskaya-Murmansk Section
Vinnitsa	Sulyatytskaya	Ukrrest Quarry	Limestone	Vinnitsa System; Southwestern System

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Vinnitsa	Izrailovka	Izrailovka Limestone Plant of the Ministry of Transportation	Limestone	Vinnitsa System; Southwestern System
Vinnitsa	Zakupnoye	Zakupnoye Limestone Plant of the Ministry of Transportation	Limestone	Vinnitsa System; Southwestern System
Yaroslavl'	Shchelkovo	Shchelkovo Mine Administration	Uncalcined dolomite	Yaroslavl' System; Gor'kiy System; Kirov System; Leningrad System; Northern System; October System; Pechora System; Kazan' System, excluding Syuginskaya-Druzhinino Sector; Moscow-Kursk System; Moscow-Donbass System; Moscow-Kiev System; Kuybyshev System; Moscow-Ryazan' System; Belorussian System
Moscow-Ryazan'	Peski	Peski Limestone Quarry	Limestone	Moscow-Ryazan' System toward Moscow
Moscow-Donbass	Yelets	Yelets Mine Administration	Limestone	Moscow-Donbass System, excluding Uzlovaya-Pavelets and Yelets-Valuyki sections; Moscow-Kursk System to Moscow-Fryazevo, Fryazevo-Elektrostal', and Yelets-Kromskaya sections; Moscow-Kiev System to Kromskaya-Bryansk and Bryansk-Zhukovka sections
Moscow-Donbass	Venev	Ozerskiy Quarry	Limestone	Moscow-Donbass System excluding Uzlovaya-Valuyki Section; Moscow-Kursk System excluding Lyublino-Tula and Tula-Kursk sections

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Moscow-Donbass	Tsementnaya	Mikheylovskiy Quarry	Limestone	Moscow-Donbass System to Tsementnaya-Moscow and Zhilevo-Voskresensk sections; Moscow-Ryazan' System to Voskresensk-Bykovo Sections; Yaroslavl' System to Moscow-Iksha, and Moscow-Pushkino sections
Moscow-Kiev	Aleksin	Barsukovskiy Mine Administration	Limestone	Moscow-Kiev System to Aleksin-Plekhanovo Section; Moscow-Kursk System to Plekhanovo-Tula and Tula-Yasnaya Polyana sections; Moscow-Donbass System to Plekhanovo-Prisady Section
Moscow-Kiev	Krasovo	Barsukovskiy Mine Administration	Limestone	Moscow-Kiev System to Aleksin-Plekhanovo Section; Moscow-Kursk System to Plekhanovo-Tula and Tula-Yasnaya Polyana sections; Moscow-Donbass System to Plekhanovo-Prisady Section
Moscow-Kiev	Muratovka	Muratovka Quarry of the Ministry of Transportation	Limestone	Moscow-Kiev System to Muratovka-Tikhonova Pustyn', Tikhonova Pustyn'-Moscow, Tikhonova Pustyn'-Bryansk, and Bryansk-Zhukovka sections; Moscow-Kursk System to Moscow-Lyubimino Section; Western System only to station of Moskva Tovarnaya
Gor'kiy	Khrapovitskaya	Quarries	Limestone	Gor'kiy System excluding Volosataya-Murom Section; Yaroslavl' System, excluding Moscow-Iksha and Moscow-Pushkino sections
Gor'kiy	Zarya	Kovrov Artel'	Limestone and Lime	Gor'kiy System excluding Volosataya-Murom Section; Yaroslavl' System, excluding Moscow-Iksha and Moscow-Pushkino sections
North Donets	Golubovka	Golubovka Mine Administration	Limestone	North Donets System to Golubovka-Popasnaya and Popasnaya-Maloil'shevskaya sections; South Donets System to Stupki-Kramatorskaya Section

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North Donets	Loskutovka	Golubovka Mine Administration	Limestone	North Donets System to Loskutovka-Popasnaya, Popasnaya-Malodil'shevskaya sections; South Donets System to Stupki-Kramatorskaya Section
North Donets	Shterovka	Krasnozhchekovskiy Mine Administration	Limestone	North Donets System to Shterovka-Debal'tsevo, Debal'tsevo-Gorlovka, Gorlovka-Yama, Yama-Krasnyy Liman sections; South Donets System to Nikitovka-Konstantinovka Section
North Donets	Dolomit	Nikitovka Dolomite Combine	Uncalcined dolomite	North Donets System; Odessa System; Ryazan'-Ural System; South Donets System; Southwestern System; Vinnitsa System; Stalin System; Southern System; North Caucasus System to Martsevo-Rostov Section; L'vov System; Southeastern System to Alekseyevka-Liski, Liski-Otrozha, Otrozha-Kastornaya, Otrozha-Gryazi, and Gryazi-Yelets sections
North Donets	Dolomit	Nikitovka Dolomite Combine	Calcined dolomite	North Donets System; Southern System; Ryazan'-Ural System; North Caucasus System; Stalingrad System; Moscow-Kiev System not beyond Bryansk; Southeastern System not beyond Voronezh; Stalin System Odessa System; South Donets System
North Donets	Nikitovka	Nikitovka Dolomite Combine	Calcined dolomite	North Donets System to Nikitovka-Gorlovka Section; South Donets System to Gorlovka-Kirpichnaya, Kirpichnaya-Yasnovataya, Kirpichnaya-Martsevo, Yasnovataya-Rutchenkov, Rutchenkov-Mariupol' sections; North Caucasus System
North Donets	Yama	Yama Dolomite Combine	Calcined dolomite	North Donets System; South Donets System; Stalin System; Southern System; North Caucasus System
South Donets	Konstantinovka	Avtozheklo Plant	Glass flumes	All railroad systems

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South Donets	Kuteynikovo	Karakubskiy Mine Administration	Limestone	South Donets System, excluding Nikitovka-Slavyansk, Slavyansk-Lozovaya, Konstantinovka-Yasinovataya (exclusive of latter) Yasinovataya-Volnovakha sections; North Donets System only to Almaznaya; Stalin System to Pavlodar-Novomoskovsk, Novomoskovsk-Nizhnedneprovsk Uzel-Bagley sections; North Caucasus System to Martsevo-Rostov Section NOTE: Only low sulfur-content limestone to North Donets System; Stalin System; North Caucasus System
South Donets	Veliko-Anadol'	Novo Troitsk Mine Administration	Limestone	South Donets System to Veliko-Anadol'-Volnovakha, Volnovakha-Mariupol' sections
South Donets	Veliko-Anadol'	Novo Troitsk Mine Administration	Uncalcined dolomite	South Donets System to Veliko-Anadol'-Mariupol' Section
South Donets	Veliko-Anadol'	Novo Troitsk Mine Administration	Dolomite limestone	South Donets System; North Donets System only to Alchevskoye; Stalin System to Pavlodar-Novomoskovsk, Novomoskovsk-Nizhnedneprovsk Uzel, Nizhnedneprovsk Uzel-Bagley sections
South Donets	Yelenovka	Yelenovka Mine Administration	Limestone	South Donets System, excluding Dolya-Ilovayskoye, Kirpichnaya-Ilovayskoye, Yasinovataya-Kirpichnaya, Kirpichnaya-Khatseptovka, Kirpichnaya-Gorlovka, and Kirpichnaya-Stupki sections; Stalin System, excluding Verkhnetokmak-Fedorovka, Fedorovka-Dzhankoy, and Zaporozh'ye-Apostolovo sections
South Donets	Yelenovka	Yelenovka Mine Administration	Dolomite limestone	South Donets to Yelenovka-Rutchenkov, Rutchenkov-Yasinovataya, Yasinovataya-Kirpichnaya, Kirpichnaya-Khatseptovka sections; North Donets System only to Alchevskoye

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Stalin	Inkermaa	Balklava Mine Administration	Limestone	Stalin System to Zaporozh'ye and way stations, but not beyond Zaporozh'ye
Stalin	Nikolo-Kozel'sk	Nikolo-Kozel'sk Limestone Plant	Limestone	Stalin System to Nikolo-Kozel'sk-Dolgintsevo, and Dolgintsevo-Zaporozh'ye sections
Southeastern	267 Km Post	Studenovskiy Mine Administration	Limestone	Southeastern System to Gryazi-Liski, Liski-Alekseyevka, Gryazi-Michurinsk, Gryazi-Yelets, Otrzhanka-Kastornaya sections; Southern System; North Donets System to Alekseyevka-Kupyansk, Kupyansk-Korobochkino and Kupyansk-Prikolotnoye sections; Moscow-Donbass System to Yelets-Uzlovaya and Uzlovaya-Frisady (inclusive) sections
Stalingrad	Belaya Kalitva	Bogurayevskiy Mine Administration	Limestone	Stalingrad System to Belaya Kalitva-Likhaya Section
Stalingrad	Belaya Kalitva	Bogurayevskiy Mine Administration	Limestone	North Donets System, excluding Kupyansk-Alekseyevka, Kupyansk-Korobochkino, Kupyansk-Prikolotnoye, and Loskutovka-Popasnaya sections; South Donets System to Khatsepetovka-Kirpichnaya, Kirpichnaya-Yasinovataya sections; Southeastern System to Likhaya-Zverevo Section; North Caucasus System to Zverevo-Rostov, Rostov-Tikhoretskaya, Bataysk-Salsk, and Kushchevka-Yeysk sections
Stalingrad	Zhirnov	Zhirnov Mine Administration	Limestone	Stalingrad System to Zhirnov-Stalingrad Rail Center and Zhirnov-Likhaya sections; North Donets System, excluding Kupyansk-Alekseyevka, Kupyansk-Korobochkino, Kupyansk-Prikolotnoye, and Loskutovka-Popasnaya sections
Stalingrad	Archeda	Archeda Stone and Limestone Quarry	Limestone	Stalingrad System to Archeda-Stalingrad Rail Center and Archeda-Filino sections

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North Caucasus	Bakanskaya	Quarry of Trust of Ministry of Construction Materials	Limestone	North Caucasus System excluding Starominskaya-Kushchevka, Kushchevka-Zverevo, and Bataysk-Salsk Sections NOTE: Limestone not meeting specific requirements
Ordzhonikidze	Mashuk	Quarry of Ministry of Local Industry	Limestone	Ordzhonikidze System; North Caucasus System, excluding Tikhoretskaya-Rostov, Rostov-Zverevo, Tikhoretskaya-Sal'sk, and Krasnodar-Akhtari sections
Transcaucasus	Shagali	Quarry of Allaverdy Copper Combine	Quartz	Transcaucasus System to Shagali-Allaverdy Section
Transcaucasus	Amamlu	Quarry of Allaverdy Copper Combine	Limestone	Transcaucasus System to Amamlu-Allaverdy Section
Transcaucasus	Ararat	Ararat Quarry of Ministry of Construction Materials Industry	Lime	Transcaucasus System to Ararat-Mindzhevan' and Mindzhevan'-Kafan sections
Kazan'	Alferovo	Alferovo Quarry	Limestone	Kazan' System to Alferovo-Navashino Section; at times to Gor'kiy System, and then only to Gor'kiy
Kazan'	Dobryatino	Dobryatino Limestone Plant of the Ministry of Transportation	Limestone	Kazan' System to Dobryatino-Kanash, Arzamas-Krasnyy Uzel, Krasnyy Uzel-Alatyr sections
Kazan'	Dobryatino	Dobryatino Limestone Plant of the Ministry of Transportation	Limestone	Kazan' System to Dobryatino-Navashino Section

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Kazan'	Pychas	Pychas Quarry	Limestone	Kazan' System to Izhevsk and Votkinsk
Kazan'	Chad	Chad Quarry	Uncalcined dolomite	Kazan' System to Chad-Agryz and Agryz-Votkinsk sections
Kuybyshev	Syra	Syra Quarry	Chalk	Kuybyshev System to Syra-Ruzayevka, Ruzayevka-Penza, Penza-Fchelma sections; Moscow-Ryazan' System to Pachelma-Korshunovka Section
Orenburg	Kandurovka	Dubnovskiy Mine	Gypsum	Orenburg System
Orenburg	Novo-Troitsk	Akkerman Mine	Limestone	Orenburg System, excluding Nikel'-Aydyrlya Section
Orenburg	Rysayevo	Rysayevo Quarry	Quartz	Orenburg System to Rysayevo-Mednyy Section
Ryazan'-Ural	Ozinki	Ozinki Limestone Plant	Lump chalk	Ryazan'-Ural System to Ozinki-Ptishchevo; Moscow-Ryazan' System to Kirsanov-Tambov Section; Southeastern System to Ptishchevo-Kirsanov Section
Tashkent	Dzhizak	Quarry of Uzssakharosveklotrest (Uzbek Beet Sugar Trust)	Limestone	Tashkent System
Turkestan-Siberia	323 Km Post	Quarry of Leningrad Combine	Limestone	Turkestan-Siberia System to Ridder-Lokot', Lokot'-Aleyskaya, and Lokot'-Ayaguz sections

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Turkestan-Siberia	Sas-Tobe	Quarry of the Main Administration of Construction Materials Industry Kazakh SSR	Limestone	Turkestan-Siberia System to Sas-Tobe--Lugovaya, Lugovaya-Ayaguz, Lugovaya--Kok-Maynak, and Sas-Tobe--Arya sections
Turkestan-Siberia	Tyul'kubas	Chimkent Quarry	Limestone	Turkestan-Siberia System to Tyul'kubas--Alma-Ata and Alma-Ata--Ayaguz sections
Perm'	Kishert'	Kishert' Mine Administration	Limestone	Perm' System excluding Motovilikh-Kalino, Kalino-Goroblagodatskaya, Shalya-Kishert', and Kyn-Kalino sections
Perm'	Yergach	Yergach Gypsum Quarry	Gypsum rock	Perm' System; Sverdlovsk System; South Ural System to Uktus-Ufaley Section
Perm'	Chusovskaya	"Belyy Kamen" Quarry of the Chusovoy Metallurgical Plant	Limestone	Perm' System, excluding Kalino-Kyn, Perm'-Shalya, Motovilikh-Perm', and Chusovskaya-Goroblagodatskaya sections
Perm'	Vsevelodo-Vil'va	Vil'va Quarry of the Solikamsk Magnesium Plant	Limestone	Perm' System to Vsevelodo-Vil'va--Solikamsk Section
Sverdlovsk	Bilimbay	Bilimbay Mine Administration	Uncalcined dolomite	Sverdlovsk System; South Ural System; Omsk System; Perm' System
Sverdlovsk	Bilimbay	Bilimbay Mine Administration	Limestone	Sverdlovsk System, excluding Sverdlovsk-Druzhinino, Sverdlovsk-San Donato, San Donato-Yegorshino sections; South Ural System to Uktus-Ufaley, Druzhinino-Mizhne Serginskaya and Kodinskoy-Sinarskaya sections; Perm' System, excluding Goroblagodatskaya-Perm' Section

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NOTE: During navigation period, hauling to Perm'-Levashino Section is authorized

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Sverdlovsk	Boytsy	Quarry of the Riga Nickel Plant	Uncalcined dolomite	Sverdlovsk System to Boytsy-Khrompik Section
Sverdlovsk	Boytsy	Krylovskiy Limestone Plant	Lump lime	Sverdlovsk System to Boytsy-Shartash Section
Sverdlovsk	Revda	Quarry	Quartz	Sverdlovsk System to Revda-Podvoloshnaya, Podvoloshnaya-Sverdlovsk, and Sverdlovsk-Uktus sections; South Urals System to Uktus-Kryshym Section
Sverdlovsk	Druzhinino	Druzhinino Quarry	Quartz	Sverdlovsk System to Druzhinino-Sverdlovsk, Sverdlovsk-Putevka, and Putevka-Kodinskiy sections; Kazan' System to Druzhinino-Bisertskiy Zavod Section
Sverdlovsk	Murzinka	Limestone Plant of Ministry of Transportation	Quartz	Sverdlovsk System to Murzinka-Sverdlovsk, Sverdlovsk-Shartash, and Shartash-Apparatnaya sections
Sverdlovsk	Smychka	Lebyozhinskiy Mine Administration	Quartz	Sverdlovsk System to Smychka-Blagodats' and Smychka-Verkhnyaya Salda sections

NOTE: In exceptional cases, direct to Nizhnaya Salda, counter-hauling of limestone from Vstrecha is not permitted; Perm' System to Gorblagodatskaya-Teplaya Gora Section

NOTE: During navigation season, to Teplaya Gora-Chusovskaya and Chusovskaya-Solevarni sections

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Sverdlovsk	Vstrecha	Quarry of Nizhnaya Salda Plant	Quartz	Sverdlovsk System to Vstrecha-Verkhnyaya Salda and Vstrecha-Yegorshino sections
Sverdlovsk	Bogoslovsk	Limestone Quarry of Serovskiy Plant	Quartz	Sverdlovsk System to Bogoslovsk-Madezh- dinsk Section
Sverdlovsk	Boksity	Quarry of North Urals Bauxite Mines	Limestone	Sverdlovsk System to Boksity-Tur'inskiye Rudniki Section
South Ural	Miaas	Turgoyakskiy Mine Adminis- tration	Limestone	South Ural System, excluding Ufalety-Uk- tus, Druzhinino-Nizhne Berginskaya sec- tions; Orenburg System to station of Dzhenezhke
South Ural	Silach	Silach Quarry Plant	Rubble and crumbled marble	South Ural System to Chelyabinsk Rail Center
Karaganda	Ak-Kul'	Quarry of "Krasnyygor- nyak" Artel of Akmolinsk Con- sumers Union	Limestone	Karaganda System to Ak-Kul'--Petro- pavlovsk Section; Omsk System
Karaganda	Siding 53	Quarry of syn- thetic rubber plant of Min- istry of Rub- ber Industry	Limestone	Karaganda System to Siding 53-Petro- pavlovsk and Siding 53-Karaganda sections; Omsk System

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Karaganda	Astakhovka	Tsustroma Limestone Plant of Ministry of Transportation	Lime	Karaganda System, excluding Zharyk-Bertys and Zharyk-Dzhezdy sections; Omsk System
Karaganda	Klik	Quarry of Balkhash Copper Plant	Lime and limestone	Karaganda System to Zharyk-Bertys and Zharyk-Dzhezdy sections
Tomsk	Gur'yevsk	Gur'yevsk Limestone Plant	Lime and limestone	Tomsk System to Gur'yevsk-Belovo, Belovo-Tashtagol, Belovo-Yugra, Yugra-Tayga, Tayga-Asino, and Tayga-Mariinsk sections
Tomsk	Akhpun	Temirskiy Dolomite Quarry	Uncalcined dolomite	Tomsk System to Gur'yevsk-Belovo, Belovo-Tashtagol, Belovo-Yugra, Yugra-Tayga, Tayga-Asino, and Tayga-Mariinsk sections
Tomsk	Iskitim	Limestone quarry of Chernorechenskiy Cement Plant	Limestone	Tomsk System to Iskitim-Novosibirsk, and Inskaya-Ob' sections
Tomsk	Lozhok	Limestone quarry	Lime and limestone	Tomsk System to Lozhok-Novosibirsk, Inskaya-Ob', Inskaya-Yugra, and Lozhok-Aleyskaya sections
Krasnoyarsk	Kacha	Kacha Limestone Plant of Ministry of Transportation	Lime and limestone	Krasnoyarsk System
East Siberia	Slyudyanka	Slyudyanka Calcium Quarry of the Ministry of Transportation	Limestone	East Siberia System to Slyudyanka-Ulan-Ude Section

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East Siberia	Zaigorsk	Quarry of "Krasnyyproizvodstvennik" Artel	Uncalcined dolomite	East Siberia System; Transbaykal System; Far East System
East Siberia	Chelutay	Quarry of metal plant	Limestone	East Siberia System, excluding Ulan-Ude--Tayshet Section; Transbaykal System
Transbaykal	Khadabulak	Quarry of Ministry of Metallurgical Industry	Fluorspar	To all systems
Transbaykal	Matsiyevskaya	"Sovuzplavika" Quarry of Metallurgical Industry	Fluorspar	To all systems
Far East	Podali	Quarry of Amur Basin Administration of Main Military River Transport Administration	Limestone	NOTE: Until Gosplan solves problem of interchangeability with Anderma fluorspar Far East System, excluding Londoko-Ark-hara Section
Far East	Londoko	Londoko Limestone Plant of Kraypromstroy /Kray Industrial Construction Organization/	Limestone	Far East System to Londoko-Ark-hara Section; Amur System

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